

Patent Claims

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1. A method for operation of a flat surface loudspeaker (1), in which at least one oscillating coil (3, 4) is mounted on a surface (2) in the form of a plate and having predetermined material characteristics, via which sound is emitted by a coil or coils (3, 4) stimulated electrically by means of a sound source (7), stimulated to oscillate, characterized in that the acoustic frequently response of this flat surface loudspeaker is measured and its frequency curve is determined, in that the inverse frequency curve to this frequency curve is determined, in that this inverse frequency curve is simulated in a filter device (8) as its transfer function, and in that the frequency response of the flat surface loudspeaker is compensated for by means of the filter device (8), which is connected between the sound source (7) and the flat surface loudspeaker (1) in the operating state, on the basis of its transfer function.
  2. The method as claimed in claim 1, characterized in that the transfer function of the filter device (8) is simulated by digital filters.
  3. The method as claimed in claim 2, characterized in that the transfer function is formed by means of FIR (Finite Impulse Response) filters, whose filter coefficients are derived from the inverse frequency curve.
  4. A flat surface loudspeaker having at least one oscillating coil (3, 4) which is mounted on a surface (2) in the form of a plate and has defined

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material characteristics and which, stimulated by electrical sound signals, causes this surface (2) to oscillate in order to emit sound, characterized in that a filter device (8) for the sound signals is connected upstream of the at least one oscillating coil (3, 4), and its transfer function is the inverse of the frequency response of the flat surface loudspeaker (1).

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5. The flat surface loudspeaker as claimed in claim 4, characterized in that the filter device (8) is in the form of a digital filter.
- 5 6. The flat surface loudspeaker as claimed in claim 5, characterized in that the filter device (8) is formed by FIR (Finite Impulse Response) filters.
- 10 7. The flat surface loudspeaker as claimed in one of claims 5 or 6, characterized in that the filter device (8) has a sample and hold element (9) as the input element, which is connected via an analogue/digital converter (10) to the digital filter (for example 11), whose output is connected to a digital/analogue converter (12).
- 15 8. The flat surface loudspeaker as claimed in one of claims 5 to 7, characterized in that the filter device (8) is equipped with a digital signal processor (11).
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